Dart Aerospace Ltd.

Split

Date: Monday, 22/09/2008 2:20:16 PM
User: Julie Lecocq

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	**Drawing Name**	: BEARING ASSEMBLY
Job Number	: 42177 -1		
Estimate Number	: 10716		
P.O. Number	:	**Part Number**	: D3121241
This Issue	: 22/09/2008 **S.O. No.** :	**Drawing Number**	: D3121 REV E
Prsht Rev.	: NC	**Project Number**	: N/A
First Issue	: 22/09/2008 **Type** : MACHINED PARTS	**Drawing Revision**	: E
Previous Run	: 40352	**Material**	:
Written By	:	**Due Date**	: 29/09/2008 **Qty:** ~~250~~ 290 **Um:** Each
Checked & Approved By	: JLO 08.9.22		
Comment	: Est Rev:A 04.02.18 New issue KJ/DS Est Rev:B ECN 1060 07-11-12 DD verified by:EC		

Additional Product

Job Number:

Seq. #:	Machine Or Operation:	Description :
1.0	MDELRINR12500	DELRIN ROUND BAR ~~1.25"~~

No material SA 08/10/18 M107961 3Pt

Comment: Qty.: 0.0546 f(s)/Unit Total : 13.6500 f(s) Ø 1.500
Material: ~~Ø1.25~~ Delrin Rod
(M-DELRIN-R1.2500)Identify as D3121-25
Batch: M108460 10Pt + 3Pt

2.0	HARDINGE	HARDINGE CNC LATHE SMALL

Comment: HARDINGE CNC LATHE SMALL

1-Turn D3121-25 Cap as per Folio FA387

2-Deburr

SA 08/10/18 308

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE

Comment: INSPECT PARTS AS THEY COME OFF MACHINE SA 08/10/18 308

4.0	QC8	SECOND CHECK

Comment: SECOND CHECK SA 08/10/20 308

5.0	D312123	Bearing

Comment: Qty.: 1.0000 Each(s)/Unit Total : 250.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D3121-23	Bearing	42410 100 X
			42200 190 X

CS 08/10/20 290

M108460

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Date: Monday, 22/09/2008 2:20:13 PM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** BEARING ASSEMBLY

Job Number: 42177 **Part Number:** D3121241

Job Number:

Seq. #:	Machine Or Operation:	Description :
6.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1

Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Press D3121-23 Bearing into D3121-25 Cap as per Dwg D3121 08/10/21 290

7.0	QC5	INSPECT WORK TO CURRENT STEP

Comment: INSPECT WORK TO CURRENT STEP 08/10/21 4285 PTC

8.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1

Identify and Stock
Location: ST238 08/10/21 290

9.0	QC21	FINAL INSPECTION/W/O RELEASE

Comment: FINAL INSPECTION/W/O RELEASE 08/10/22

MW 08-10-22

Job Completion

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3121-241 PAR #: _____ Fault Category: _____ NCR: Yes (No) DQA: [illegible] Date: 08/10/22

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR: 42177		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B: Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
08-10-21	7.0	Upon inspection 1 defective slightly damaged bearing was found. R.C: from supplier/manufacture	[illegible]	Scrap? No replace	08/10/21	08-10-21	[illegible]	08/10/21

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	42177
Description: Cap	Part Number:	D3121-25
Inspection Dwg: D3121 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.315	+/-0.010	.314	✓			
Ø1.000	+/-0.010	Ø1.004	✓			
Ø0.838	+/-0.002	Ø.839	✓			
R0.063	+/-0.010	R.060	✓			
R0.010	+/-0.010	R.010	✓			
0.230	+/-0.001	.229	✓			
Ø0.865	+/-0.001	Ø.866	✓			

Measured by:		Audited by:		Prototype Approval:	N/A
Date:	08/10/18	Date:	08/10/20	Date:	N/A

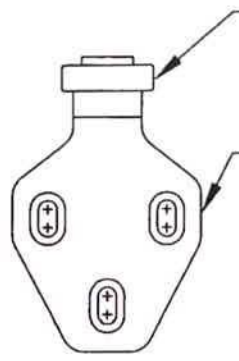
Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue (P/O D3121-241)	KJ/RF	
B	06.06.09	Ø1.000 diameter was Ø1.024	KJ/JLM	
C	08.01.16	Dwg Rev. updated	KJ/EC/DD	

DART

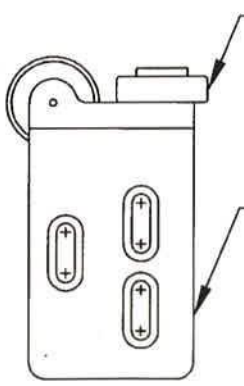
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. E SHEET 1 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

A	02.04.15	NEW ISSUE
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD −141/−143/−144/−145/−146
C	04.02.17	ADD CLEARANCE; USE −241 BEARING
D	06.05.17	D3121−25 CAP WAS 1.024, NOW 1.000
E	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)

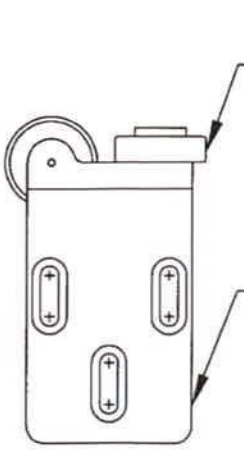
RELEASED
07.11.07



D3121−041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30−23000−33)



D3121−043 (SHOWN) / D3121−044 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30−23000−37/−38)



D3121−045 (SHOWN) / D3121−046 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30−23000−35/−36)

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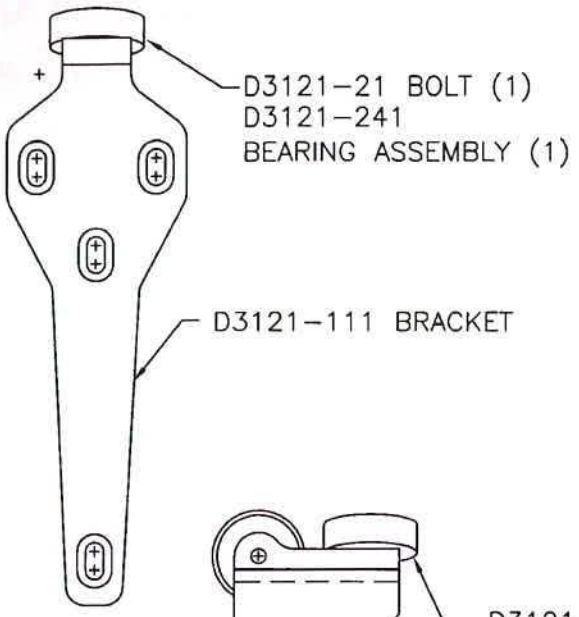
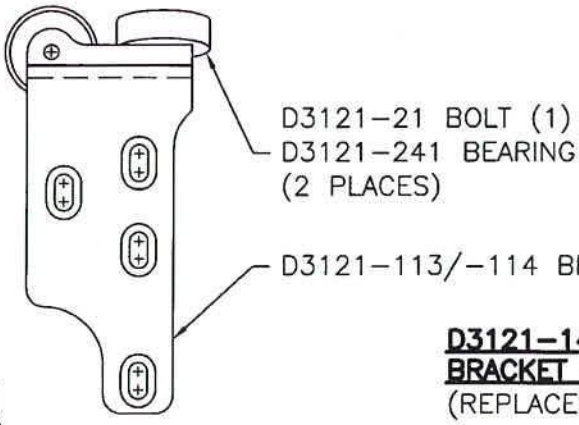
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

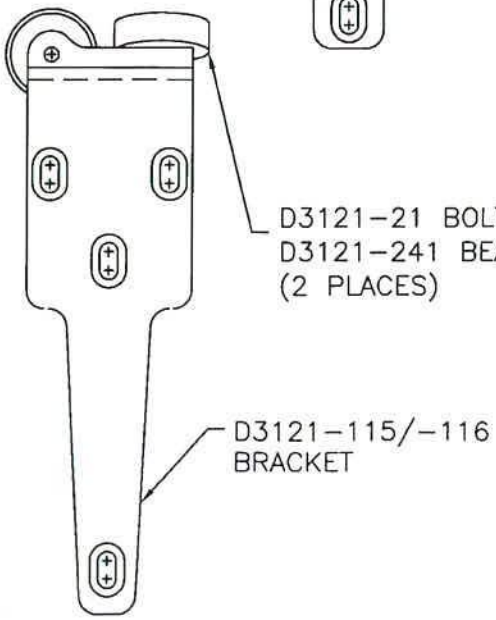


D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

RELEASED
07.11.07



D3121-143 (SHOWN) / D3121-144 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-145 (SHOWN) / D3121-146 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-05/-06)

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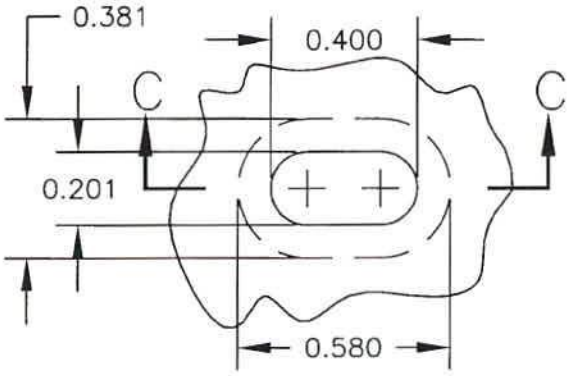
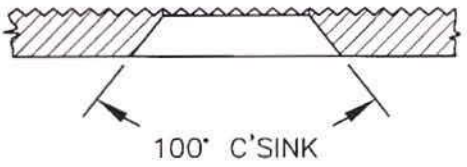
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1

DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED

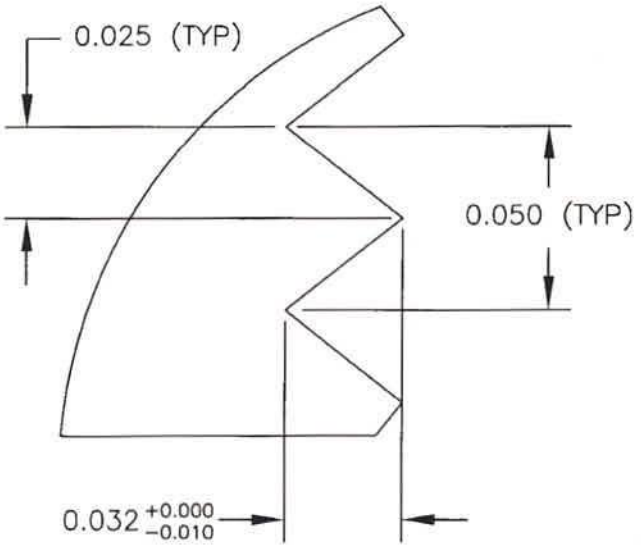




SECTION C–C

RELEASED
07.11.07

DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



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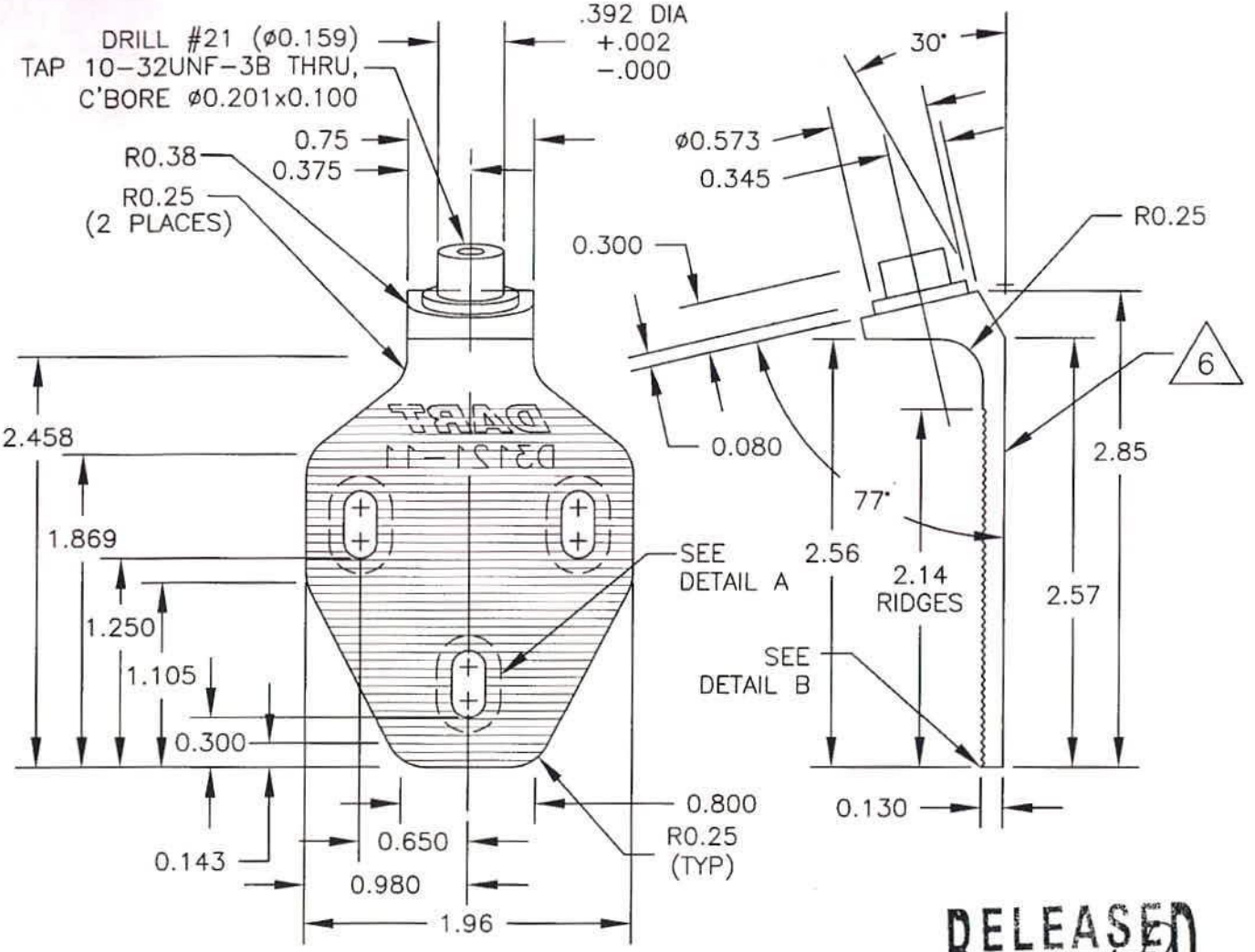
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1



RELEASED
07.11.07

D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N & LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

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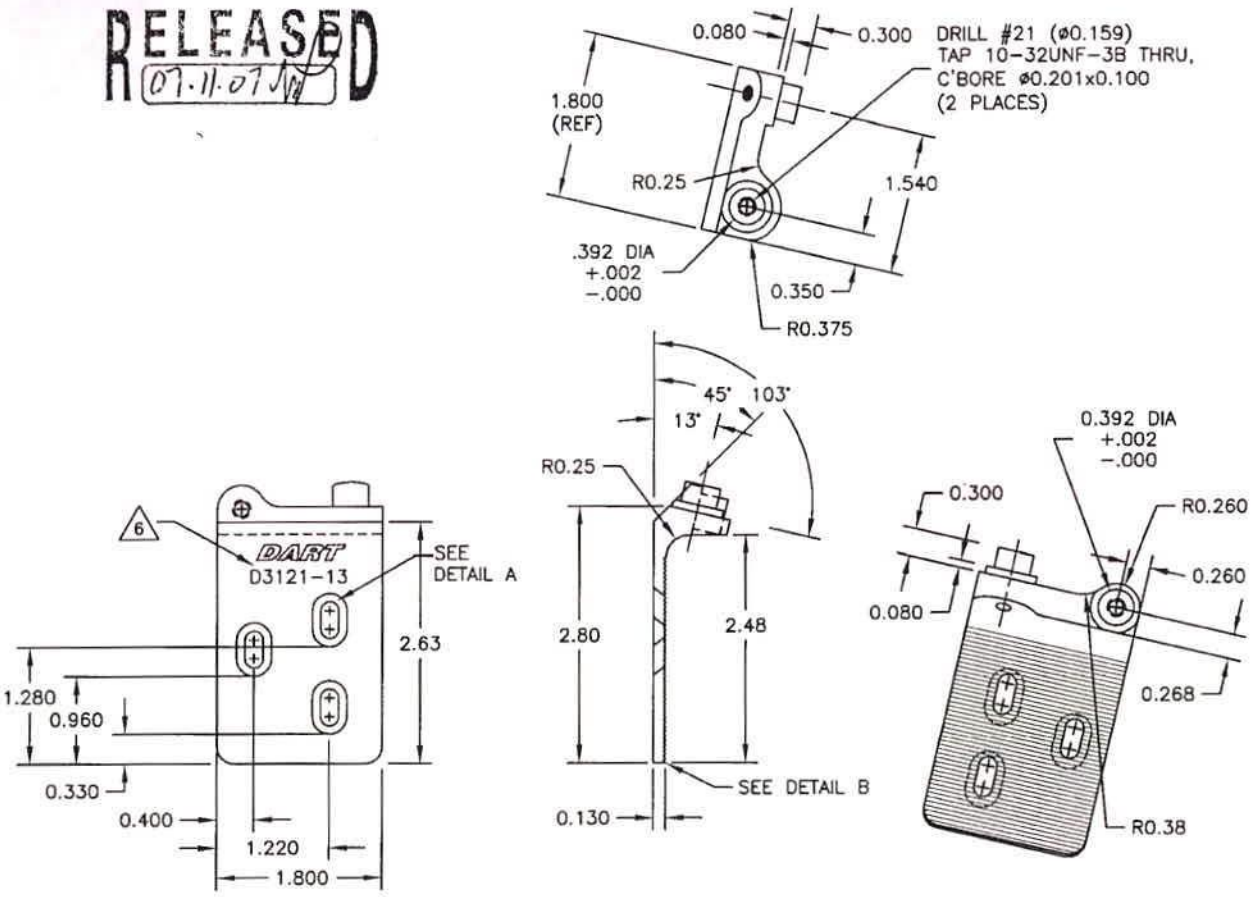

D3121-13 BRACKET (SHOWN)
D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N & LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

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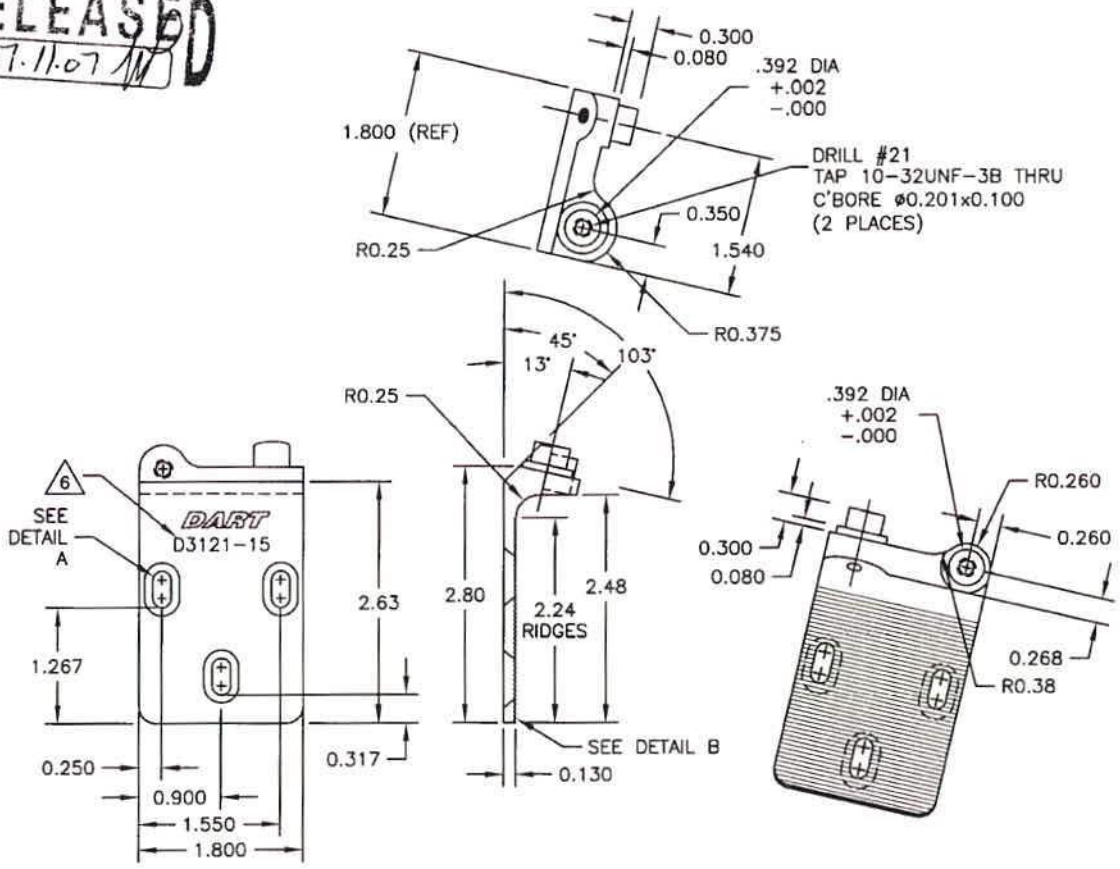
07.11.07



D3121−15 BRACKET (SHOWN)
D3121−16 BRACKET (OPPOSITE)

1) MATERIAL: 17−4 SS PER AMS 5604/5643 (REF DART SPEC. M17−4−B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N AND LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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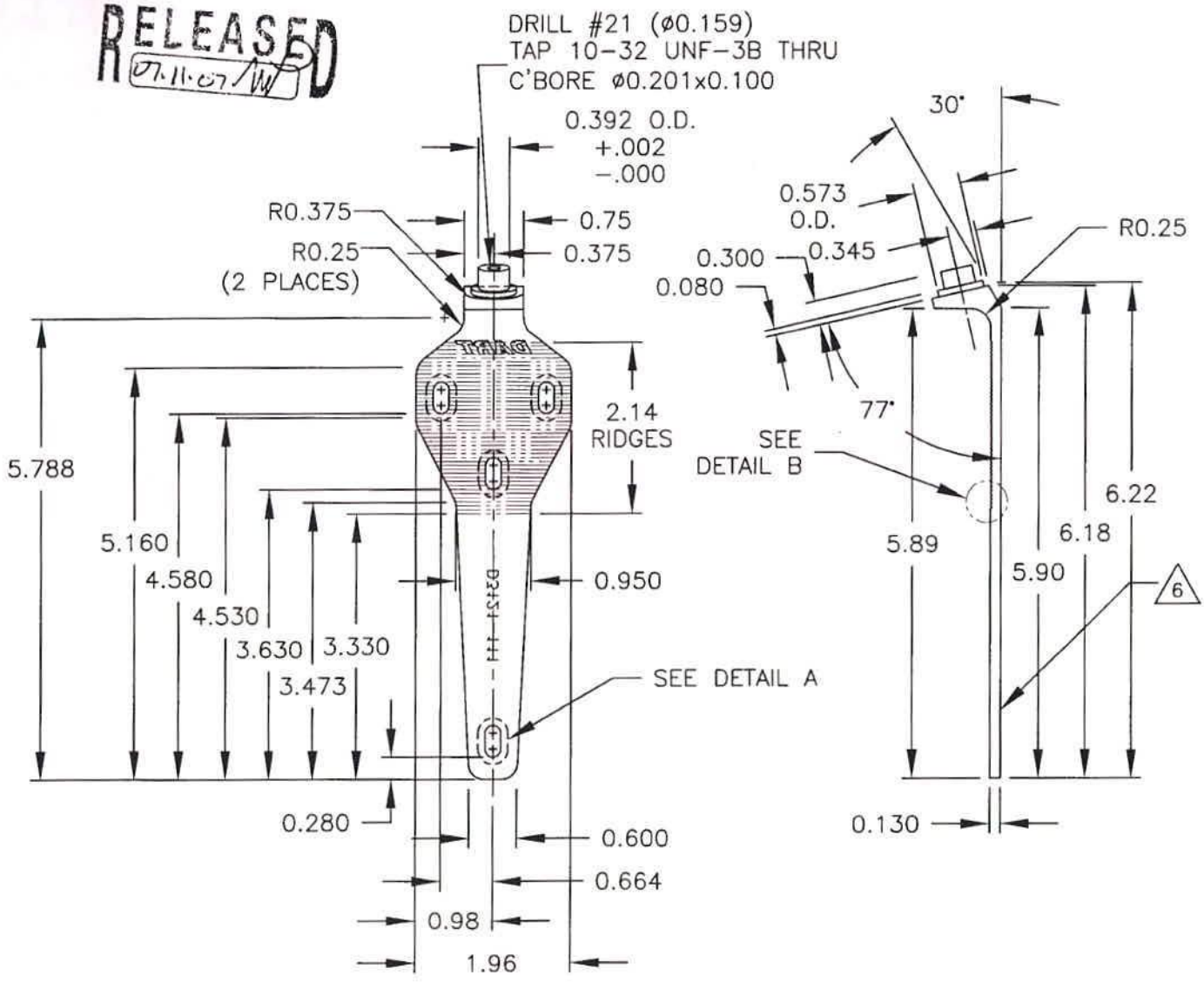
CHECKED	APPROVED	DRAWING NO. D3121	REV. E SHEET 7 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
07.11.07 MW



D3121-111 BRACKET

1) REPLACES PREMIER P/N B32-23001-11
2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. E SHEET 8 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

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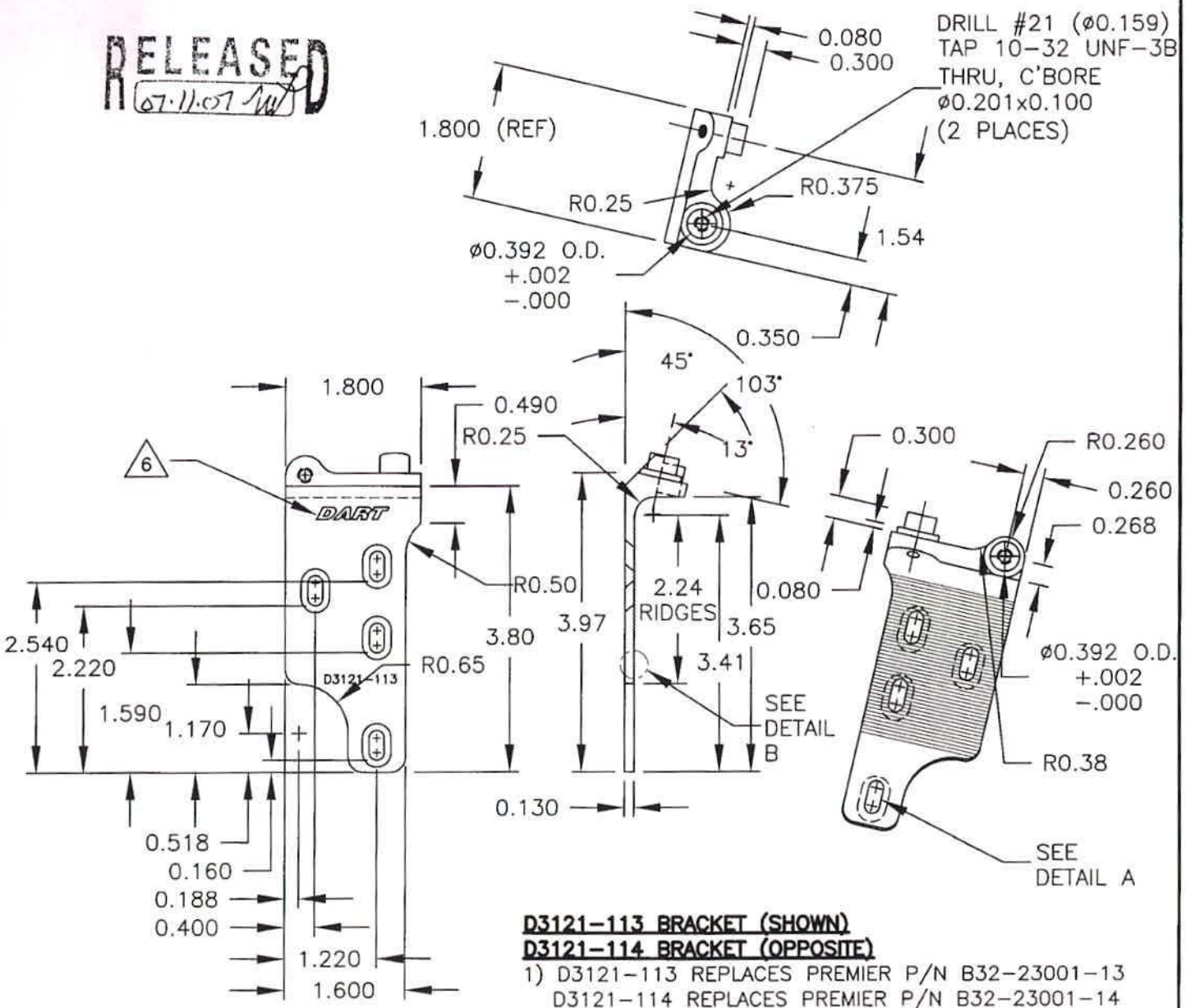
07.11.07



D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)

1) D3121-113 REPLACES PREMIER P/N B32-23001-13
   D3121-114 REPLACES PREMIER P/N B32-23001-14
2) MATERIAL: 17-4 SS PER AMS 5604/5643
   (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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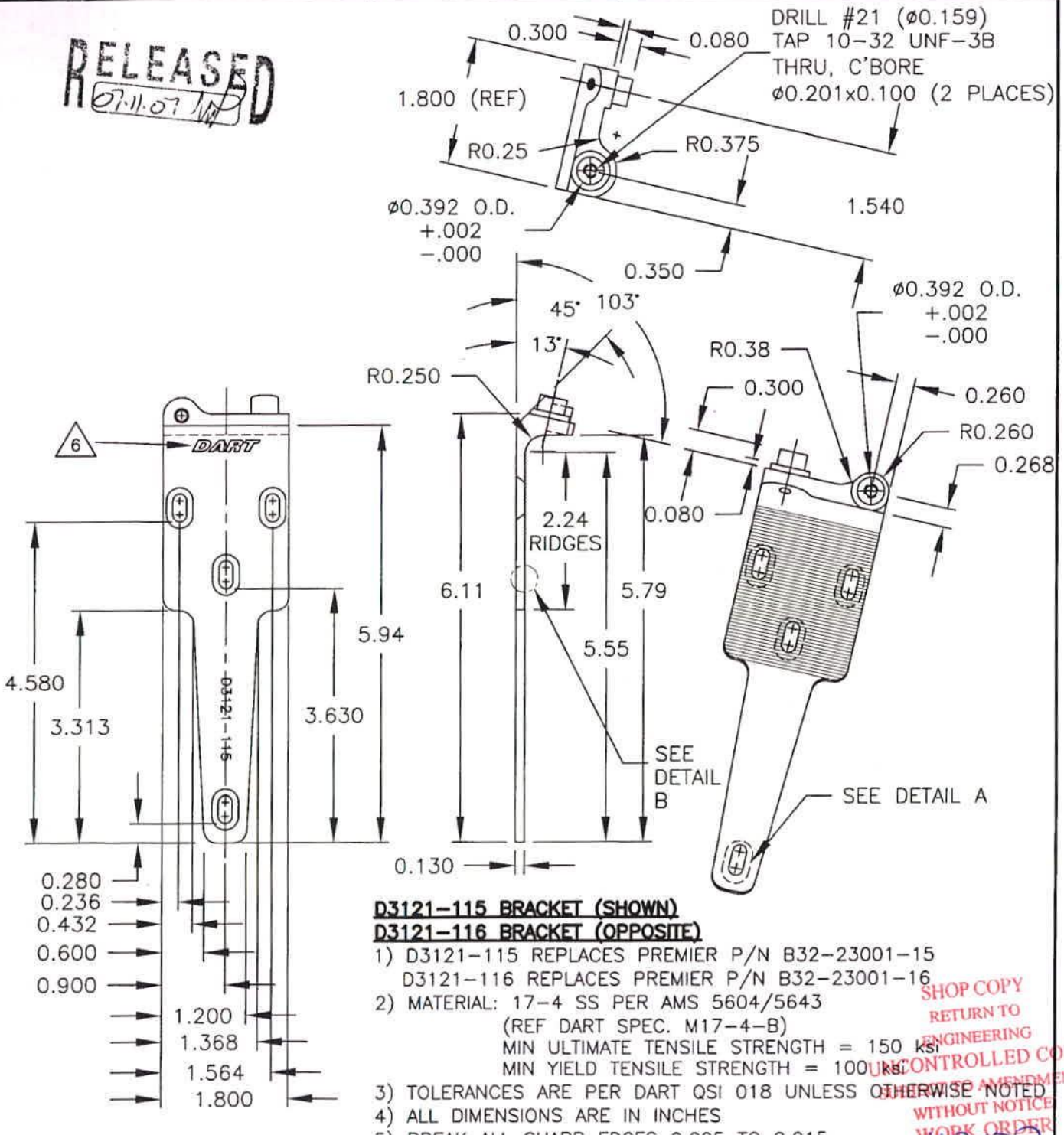
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. E SHEET 9 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED 07.11.07



D3121-115 BRACKET (SHOWN)
D3121-116 BRACKET (OPPOSITE)

1) D3121-115 REPLACES PREMIER P/N B32-23001-15
   D3121-116 REPLACES PREMIER P/N B32-23001-16
2) MATERIAL: 17-4 SS PER AMS 5604/5643
   (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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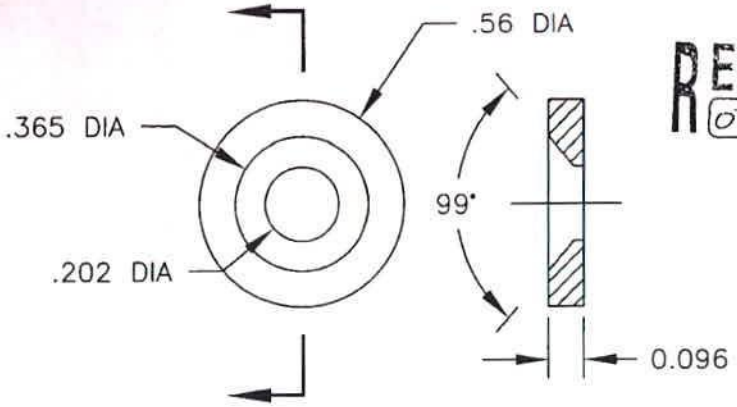
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. E SHEET 10 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1



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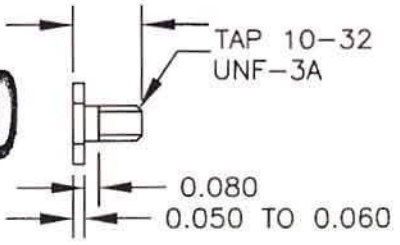
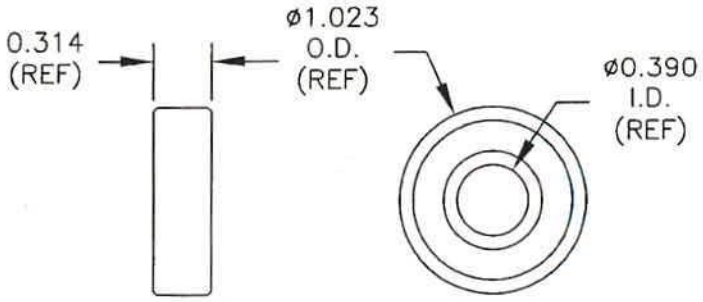


D3121-17 WASHER (SCALE 2:1)

1) REPLACES PREMIER P/N B32-23001-17
2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015

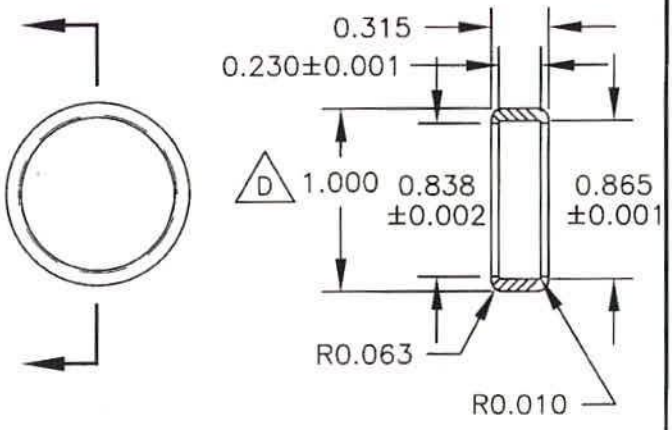
D3121-21 BOLT (SCALE 1:1)

1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
2) FINISH: NONE
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-19 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM
FAFNIR P/N 9100KDD
2) ALL DIMENSIONS ARE IN INCHES



D3121-25 CAP (SCALE 1:1)

1) MATERIAL: DELRIN ROD, ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES

D3121-23 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z
OR KML P/N 6900-ZZ
2) ALL DIMENSIONS ARE IN INCHES

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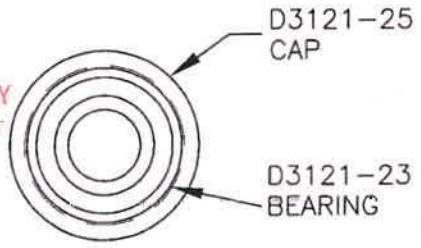
NO. 42177



D3121-241 BEARING ASSEBLY (SCALE 1:1)